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EXAMINER	
ELALLAM, AHMED	
ART UNIT	**PAPER NUMBER**
2662	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/773,835	BENDER ET AL.	
	Examiner	Art Unit	
	AHMED ELALLAM	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) ___ is/are allowed.

6)☐ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) ___ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 June 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILD ACTION

This communication is responsive to the RCA filed on December 27, 2004.

Claims 1-51 are pending. All the pending claims are rejected.

Drawings

1. Figures 1 through 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Notes: the drawings of Figures 1-8 are the same figures presented in the document cited on PTO-892 form filed on 01/27/2004, 3GPP2 C.S0024 Version 2.0, October 27, 2000.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 44 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 44, the feature of "selecting said idle open state connection based in part on data traffic activity of said idle open connection **and** other connections", is not described in the specification as originally filed. More specifically, the specification as originally filed does not describe that the traffic activity of **both** the open idle state connection **and** the other open connections are used for the selection of the idle open state connection. In addition, the idle open state connection is understood of having no traffic activity, while in this claim it is indicated that it is selected based on data traffic activity of the "idle open connection" which is contradictory with the meaning of the "idle open connection".

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 8-10, 12, 18, 9, 20-22, and 28-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, it is not clear what is meant by "determining an open connection from said two or more open connections in said idle open state with a longest combined idle open state connection time and busy open state connection time". More specifically, the claimed "a longest combined idle open state connection time and busy open state" is confusing, because it involves both the idle and the busy connection time. Stated differently, the idle open connection is understood as a connection that has idle connection time only based on the definition of the "idle open connection". If Applicants believe that this is not the case, such that an idle open connection comprises both the idle connection time and busy connection time, then there would be no distinction between an idle open connection and busy open connection.

With reference to claims 22, 32, claims 22 and 32 have the same limitation of "a longest combined idle open state connection time and busy open state", and therefore are subject to the same rejections as indicated with reference to claim 12.

In claims 8, 19, 29, it is not clear what is meant by the claimed "...connection used to transfer data at a predetermined data rate in a predetermined period of time". More specifically, it is not clear whether that means the connection is assigned a transmission rate during specific periods of times within the busy state and the idle state or both. Examiner interpreted such limitation as being a transmission rate of the connection.

In claims 18, it is not clear what is meant by the claimed "predetermined period of time is a period of time immediately preceding said determining said open connection from said two or more open connections used to transfer said predetermined amount of

data in said predetermined period of time". More specifically, the predetermined amount of data in a predetermined amount of time in the preceding claim 15 is interpreted by the Examiner to mean predetermined transmission rate, knowing a transmission rate would provide the amount of traffic that can be transmitted in any amount of time (rate = traffic amount/ time period). The limitation of "predetermined period of time is a period of time immediately preceding the determination of the open connection" in the context of parent claim may be interpreted for example as the most recent opened connection that has a specific data rate transmission. If that is not the case, Applicant is kindly requested to provide an explanation to the vague meaning in claim 18.

Claims 21, 28 and 31 suffer from the same deficiencies as in claim 18 and therefore they are subject to similar rejections.

Claims 9, 10, 20, 21, 30 and 31 depends from rejected respective claims 8, 19 and 29, they are subject to the same rejection.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6, 11-15, 17, 18, 22, 23, 25, 32-34, 36, 37, 39-43, 45-48, and 51 are rejected under 35 U.S.C. 102(e) as being anticipated by Zellner et al, US (6,069,882).

Regarding claims 1 and 3, with reference to figures 1 and 2, Zellner discloses a method comprising:

Receiving a call request at a mobile switch (figure 1, unit 14) (claimed access network) for connection between a mobile 26 and network 14, (reads on detecting a request for opening a connection between an access terminal and a data network for communication of data);

Zellner discloses detecting a plurality of pre-existing connections, in the mobile switch (claimed access network), see figure 2, unit 206 and 212. (Examiner interpreted the teaching of Zellner having user with less priority than the requesting mobile (mobile 1) in association with the termination of the user with the lowest priority and longest call as being the claimed detecting a plurality of pre-existing open connections in an access network between access terminal and the data network, because to select the user with the lowest priority and the longest call must be carried out in comparing a plurality of users with different priorities and length of calls);

Allocating the channel (the connection that is terminated from the user with lower priority and longest call) to the requesting user, see figure 2, box 216, (claimed selecting one of pre-existing open connections based in part on data traffic activity of the pre-existing open connections, each pre-existing open connection being in one of a busy open state or an idle open state, and releasing the selected pre-existing open connection, and allocating to the access terminal, communication resources

corresponding to the released, selected pre-existing open connection). Examiner interpreted the selection of the user with the lowest priority and longest call as being the claimed selecting one of the pre-existing open connection, based in part on the data traffic activity of the pre-existing open connection in a busy state, and the terminating and the allocation as being the steps of releasing and allocating. See figure 2, boxes 212 and 216. In addition inherent to Zellner the release of communication resources because that is needed to serve the allocated connection.

Regarding claim 2, Zellner discloses allocating a channel in idle state, claimed the selected open connection is in an idle open state. (Examiner interpreted the idle channel as being the claimed pre-existing idle open channel, since no traffic is being transmitted on the idle channel).

Regarding claim 4, Zellner discloses that cell controller of the mobile switch ascertains whether there is an idle channel available to service the request from he user (mobile 1) and if a determination is made that there is an idle channel, then the idle channel is assigned to the requesting mobile, see column 5, lines 39-47.

Regarding claim 6, Zellner discloses a connection requested by a user, wherein each channel is associated with a rate, can use three idle channels when available. See column 3, lines 36-40. Claimed determining whether two or more open connections are in an idle open state; determining an open connection, from said two or more open connections in said idle open state, used to transfer a predetermined amount of data in a predetermined period of time; wherein said selected open connection is said determined open connection used to transfer said predetermined amount of data in said

predetermined period of time). Examiner interpreted the channel rate of Zellner as being the claimed transferring a predetermined amount of data in a predetermined period of time.

Regarding claim 11, Zellner discloses all the limitation of base claim 1, as indicated above, in addition Zellner discloses using idle channels, column 1, lines 34-44, and providing the idle channel if available to the user regardless of user priority. See column 5, lines 44-45. (Examiner interpreted the feature of assigning the idle channel to the user without regard to the user priority as being the claimed determining whether two or more open connections are in an idle open state, wherein the selecting is based on a random selection from two or more open connections in the idle open state).

Regarding claim 12, (claim 12 recites determining whether two or more open connections are in an idle open state, determining an open connection from said two or more open connections in said idle open state with a longest combined idle open state connection time and busy open state connection time; wherein said selected open connection is said determined open connection with said longest combined idle open state connection time and busy open state connection time). This limitation is interpreted broadly as a connection that have both busy and open state times, and can be interpreted as the connection of Zellner that is vacated, see figure 2, box 212, and released to be allocated to the requesting higher priority user. As box 121 indicates, the user with the longest call is terminated, the call have periods of silence and periods of activity as known in the art and that is interpreted as having both the open idle state time and busy open state time).

Regarding claim 13, Zellner disclosed all the limitations of base claim 1, as indicated above, in addition Zellner discloses that when no idle channel is available (figure 2, box 202), and all the connections are busy (figure 2, box 206) then the allocation of the connection is given to the requested user after being terminated, see box 212 and 216 of figure 2. (Claimed determining whether an open connection is in a busy state and no connection is in an idle open state, wherein the selected open connection is the connection in the busy open state).

Regarding claim 14, Zellner discloses that when no idle channel is available (figure 2, box 202), and all the connections are busy (figure 2, box 206) then the allocation of a connection is given to the requested user based on the determination of connection used by a user having a lower priority and longest call, see boxes 206 and 212. (Examiner interpreted determining the user with the lowest priority and the longest call, as being the claimed determining whether two or more open connections are in a busy open state and no open connection is in an idle open state; determining an open connection from said two or more open connections with a longest busy open state connection time, wherein the selected open connection is the determined connection from the two or more open connections with the longest open state connection time, because Zellner determination of the user having the longest call is understood that other users with different call time are also considered, and that reads on the claimed two or more busy open state connections).

Regarding claim 15, Zellner discloses that when no idle channel is available (figure 2, box 202), and all the connections are busy (figure 2, box 206) then the

allocation of a connection is given to the requested user based on the determination of connection used by a user having a lower priority and longest call, see boxes 206 and 212. In addition Zellner discloses that each channel has a transmission rate. See column 3, lines 36-40. (Claimed determining whether two or more open connections are in a busy open state; determining an open connection, from said two or more open connections in said busy open state, used to transfer a predetermined amount of data in a predetermined period of time; wherein said selected open connection is said determined open connection used to transfer said predetermined amount of data in said predetermined period of time). Examiner interpreted the channel rate of Zellner as being the claimed transferring a predetermined amount of data in a predetermined period of time.

Regarding claim 17 (as best understood). Zellner discloses the allocation of channels used by the lower priority to the higher priority user, are used prior to receiving a request from higher priority user, Zellner discloses a low priority user using three channel (one connection) the three channels transferred the maximum amount of data in a time period immediately prior to determining the lower priority connection. See column 3, lines 36-39.

Regarding claim 18 (as best understood), Zellner discloses the allocation of the connection to the higher priority user after the request for the connection being received.

Regarding claim 22, (claim 22 recites determining whether two or more open connections are in a busy open state and no open connection is in an idle open state;

determining an open connection from said two or more open connections with a longest combined idle open state connection time and busy open state connection time; wherein said selected open connection is said determined connection with said longest combined idle open state connection time and busy open state connection time.). This limitation is interpreted broadly as a connection that have both busy and open state times, and can be interpreted as the connection of Zellner that is vacated, see figure 2, box 212, and released to be allocated to the requesting higher priority user. As box 121 indicates, the user with the longest call is terminated, the call have periods of silence and periods of activity as known in the art, and that is interpreted as having both the open idle state time and busy open state time).

Regarding claim 23, Zellner teaches the detection of idle channel (figure 2, box 202) and the channels used by low priority users. The fact that Zellner can determine the used connection and /or idle connection (channels) is an indication that Zellner discloses the claimed feature of determining at least an open connection in a busy open state and at least an open connection in an idle open state, wherein one of the selected open connection is one of the at least open connection.

Regarding claim 25, Zellner discloses that when no idle channel is available (figure 2, box 202), and all the connections are busy (figure 2, box 206) then the allocation of a connection is given to the requested user based on the determination of connection used by a user having a lower priority and longest call, see boxes 206 and 212. (Examiner interpreted determining the connection used by the user with the lowest priority and the longest call, as being the claimed determining whether two or more

open connections are in a busy open state and no open connection is in an idle open state; determining an open connection from said two or more open connections with a longest busy open state connection time, wherein the selected open connection is the determined connection from the two or more open connections with the longest open state connection time, because Zellner determination of the user having the longest call is understood that other users with different call time are also considered, and that reads on the claimed two or more busy open state connections).

Regarding claim 32, (claim 32 recites determining an open connection from said two or more open connections with a longest combined idle open state connection time and busy open state connection time; wherein said selected open connection is said determined connection with said longest combined idle open state connection time and busy open state connection time). This limitation is interpreted broadly as a connection that have both busy and open state times, and can be interpreted as the connection of Zellner that is vacated, see figure 2, box 212, and released to be allocated to the requesting higher priority user. As box 121 indicates, the user with the longest call is terminated, the call have periods of silence and periods of activity as known in the art, and that is interpreted as having both the open idle state time and busy open state time).

Regarding claim 33, Zellner discloses detecting non-availability of idle channel. See column 7, lines 60-column 8, and line 34. Examiner interpreted the non-availability of idle channel to means that all connection are being used, and that reads on the claimed detecting an overload condition in the access network.

Regarding claim 34, with reference to figure 2, Zellner discloses determining if no idle channel is available, then terminating a connection of a lower priority user, (Examiner interpreted this feature of having all existing connections are in use, and the fact of terminating a lower user connection is an indication of a load condition that depends on the detection of the number of existing connections.

Regarding claim 36, with reference to figures 1 and 2, Zellner discloses a method comprising:

Detecting non-availability of idle channel in the mobile switch 14 of a requesting mobile (figure1, unit 26) to access network 12, (reads on detecting an overload condition in an access network between an access terminal and data terminal);

Allocating the connection, that is terminated from the user with lower priority and longest call, to the requesting user. See figure 2, boxes 212 and 216. (Claimed selecting one of pre-existing open connection among a plurality of pre-existing connections based in part on data traffic activity of the open connections, each pre-existing open connection being in one of a busy open state or an idle open state, and releasing the selected open connection in response to the detected overload condition). Examiner interpreted the selection of the user with the lowest priority and longest call as being the claimed selecting one of the pre-existing open connection, based in part on the data traffic activity of the open connection in a busy state).

Regarding claim 37, Zellner's allocation of the vacated channel is in response to the connection request. See column 7, lines 60-column 8, and line 34. (Claimed

detecting a request for opening a connection between the access terminal and the data network for communication of data.)

Regarding claim 41, with reference to figure 1 and 2, Zellner discloses a cell controller 18 (claimed resource manager) in connection with buffer 16 comprising a plurality of queues (claimed plurality of resources and connection controllers in communication with the resource manager for making requests for allocating communication resources to a connection) and home location register 20, the cell controller for controlling the buffer 16, the cell controller is a high speed general purpose computer for controlling the functions of the mobile switch 14. In addition Zellner discloses receiving a call request at a mobile switch (figure 2), in addition Zellner discloses that the cell controller provides allocating a connection after being vacated from a lower priority user to the requesting user. See figure 2, boxes 212 and 216. (Claimed resource manager configured to detect a request for opening a connection for communication of data between the access terminal and the data network, to detect a plurality of pre-existing connections in an access network between the access network and the data network, to detect a plurality of pre-existing open connections a plurality of pre-existing connections based on data traffic activity of the open connections, each pre-existing open connection being in one of a busy open state or an idle open state, and to release the selected open connection for allocating, to the access terminal communication resources corresponding to the released selected open connection) . Examiner interpreted the selection of the user with the lowest priority and longest call as

being the claimed selecting one of the pre-existing open connections based in part on the data traffic activity of the open connection in a busy state).

Regarding claims 39 and 42, Zellner discloses allocating an idle channel for the requesting user, see figure 2, box 202. (Claimed selected open connection is an idle open connection).

Regarding claim 40 and 43, Zellner discloses allocating a vacated channel from a lower priority user to be used by the requesting higher priority user, see column 8, line 21-26. (Claimed the selected open connection is in busy open state).

Regarding claim 45, with reference to figures 1 and 2, Zellner discloses a method comprising:

Receiving a call request at a mobile switch (figure 1, unit 14) (claimed access network) for connection between a mobile 26 and network 14, (reads on detecting a request for opening a connection between an access terminal and a data network for communication of data);

Zellner discloses terminating a lower priority user having the longest call and allocating the corresponding connection to the requesting user, see figure 2 boxes 206 212 and 216. (Claimed selecting a pre-existing open connection in an access network between an access terminal and a data network based on grade of service assigned to the pre-existing open connection and data traffic activity of the pre-existing open connection). (Examiner interpreted the priority as being the grade of service).

Allocating the connection that is terminated from the user with lower priority and longest call to the requesting user. See figure 2, boxes 212 and 216.

(Claimed releasing the selected open connection, and allocating to the user communication resources corresponding to the released selected open connection). (Allocating communication resources corresponding to the released open connection is inherent to Zellner, because such communication resources are needed for the duration of the allocated connection to exist).

Regarding claim 46, Zellner discloses allocating an idle channel for the requesting user, see figure 2, box 202. (Claimed: the selected open connection is an idle open connection).

Regarding claim 47, Zellner discloses allocating a vacated channel from a lower priority user to be used by the requesting higher priority user, see column 8, and line 21-26. (Claimed the selected open connection is in busy open state).

Regarding claim 48, Zellner discloses whether an idle channel is available for the requesting user, and if it is available then allocating the idle channel for the requesting user, see column 5, lines 39-45, and figure 2, box 202. (Claimed determining whether an open connection is in an idle open state, wherein the selected open connection is the determined open connection, the selected open connection is an idle open connection).

Regarding claim 51, Zellner discloses that the mobile switch is a CDMA switch. See column 3, lines 66-67, and column 4, lines 1-9. (Claimed the access network is CDMA network configured to communicate wirelessly with the access terminal.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 24, 26, 28, 35, 38 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zellner in view of Yao et al, US (5,983,114).

Regarding claim 24, as indicated above with reference to parent claim 23, Zellner discloses determining a connection having the longest call, figure 2, box 212. (Claimed selected open connection).

The difference between the teaching of Zellner and the recited limitation is that the determination is based on the longest idle open state connection time.

However Yao discloses timing out connection based on idle open state connection time, see figure 2, boxes116 and 118. It would have been obvious to a person of skill in the art at the time the invention was made to consider idle time length as taught by Yao in the selection decision of connections used (open) by lower priority users of Zellner within the call length so that the termination of lower priority user can be carried based on the level of activity of users and not only the length of calls. The advantage would be the ability of Zellner's system to provide preferences within the same group of lower priority users. Stated differently, The Zellner system would be

more just in terminating users having less data transmission and longer inactivity periods.

Regarding claim 26, Zellner discloses that each channel has a transmission rate. See column 3, lines 36-40. Examiner interpreted the channel rate of Zellner as being the claimed transferring a predetermined amount of data in a predetermined period of time.

Regarding claim 28 (as best understood), Zellner discloses the allocation of the connection to the higher priority user after the request for the connection being received.

Regarding claims 35 and 38, Zellner discloses substantially all the limitations of respective parent claims 33 and 36, except it doesn't disclose overload condition is based on reverse link monitoring.

However, Yao discloses overload condition that are based on a reverse link activity and utilization monitoring. See abstract, column 6, lines 29-46. (Note a traffic link is reverse link). It would have been obvious to an ordinary person of skill in the art at the time the invention was made to monitor the reverse link utilization and activity as taught by Yao in determining which connection to terminate in the system of Zellner so that higher priority requester can be allocated a vacated connection based on the level of activity of the low priority subscriber. The advantage would be the ability of Zellner system to vacate connections of low priority user in case of congestion in a fair manner by terminating user according to the level of activity instead of longest call. See Zellner, figure 2.

Regarding claim 44, with reference to figures 1 and 2, Zellner discloses a method comprising:

Receiving a call request at a mobile switch (figure 1, unit 14) (claimed access network) by a mobile unit (figure1, unit 26) for access to network 12, (reads on detecting a request for opening a connection between an access terminal and a data network for communication of data), see column 1, lines 37-column 2, line 24 and column 5, lines 29-column 6, line 40.

Zellner discloses detecting if there is no idle channel, then determining in the mobile switch (claimed access network) a plurality of pre-existing connections between the mobile units 26 and the network 12, see figure 1, and figure 2, unit 206 and 212. (Examiner interpreted the teaching of Zellner when having no idle channel, and the termination of the user with less priority than the requesting mobile (mobile 1) as being the claimed determining whether an open connection is in an idle open state in an access network between the access terminal and the data network), Zellner also discloses the allocation of the idle channel, see figure 2, box 216.

Zellner does not disclose selecting an idle channel based in part on data traffic activity of the idle open connection and the other open connections.

However, Yao discloses selecting an idle link (connection) based on data traffic activity in a reverse link (claimed "open connection in idle open state") and other traffic links (claimed other open connections), and if no activity is detected in an open connection, the open connection is selected to be used by another remote unit. See figure2, box 116, and column 7, lines 15-20. It would have been obvious to a person of

skill in the art to modify the selection of connections using the criteria of traffic activity taught by Yao in terminating lower priority user so that unused bandwidth of lower priority users can be allocated to higher priority users in case of congestion. The advantage would be more profit generation by granting inactive open connections to higher subscribers. (Zellner, column 1, lines 34-59).

8. Claims 7-10, 16, 19-21, 27, 29, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zellner in view of Alperovich et al, US (5,940,763).

Regarding claims 7, 16 and 27, Zellner discloses the availability of idle channel, and that an idle channel is associated with rate (transmission rate). See column 3, lines 36-40.

Zellner does not specify a predetermined amount of data transferred by a user of users of two or more open connections is the largest amount of data. (Examiner interpreted this limitation, as being the selected idle open connection is the connection having the maximum data rate).

However, Alperovich discloses dividing a full-rate channel used by a first mobile into a plurality of sub-rate channels upon receiving a request from a second mobile, and if a free full-rate channel is available, the second mobile is allocated the free full-rate channel. See column 2, lines 20-36, and column 6, line 51-55, and column 7, lines 65 through column 8, lines 1-8. (Examiner interpreted the teaching of Alperovich of allocating a full-rate free channel as being equivalent to the claimed largest amount of

data transferred in the selected one idle open channel, as in claim 7, and data transferred in open connection as in claims 16 and 27).

Therefore it would have been obvious to modify the method system of Zellner in allocating the idle channels based on full-rate idle channel as taught by Alperovich so that higher rate connection can be allocated to the requesting user. The advantage would the use of more bandwidth by lower priority users as long as no request are received from the higher priority users, and selecting the high rate channels when available to provide the users with more bandwidth.

Regarding claims 8 and 9, Zellner discloses the availability of idle channel, and that an idle channel is associated with rate (transmission rate). See column 3, lines 36-40. (The allocated Zellner/Alperovich channel as demonstrated above would be the channel having the full-rate).

Zellner does not specify a predetermined amount of data rate in a predetermined period of time of the selected idle open connection transferred by a user of users of two or more open connections. (Examiner interpreted this limitation, as being the selected idle open connection is the connection having the maximum data rate)

However, Alperovich discloses dividing a full-rate channel used by a first mobile into a plurality of sub-rate channels upon receiving a request from a second mobile, and if a free full-rate channel is available, the second mobile is allocated the free full rate channel. See column 2, lines 20-36, and column 6, line 51-55, and column 7, lines 65 through column 8, lines 1-8. (Examiner interpreted the teaching of Alperovich of

allocating a full-rate free channel as being equivalent to the claimed largest amount of data transferred in the selected one idle open channel).

Therefore it would have been obvious to modify the method system of Zellner in allocating the idle channels based on full rate idle channel as taught by Alperovich so that higher rate connection can be allocated to the requesting user. The advantage would the use of more bandwidth by lower priority users as long as no request are received from the higher priority users, and the ability to allocates higher channel bandwidth to requesting users when available.

Regarding claim 10, the free full-rate allocated available channel of Alperovich is understood as been freed by a user before been allocated. (Claimed predetermined period is a period before a user of users of two or more open connections in the idle open state moves to the idle open state).

Regarding claim 19 (as best understood), Zellner discloses that when no idle channel is available (figure 2, box 202), and all the connections are busy (figure 2, box 206) then the allocation of a connection is given to the requested user based on the determination of connection used by a user having a lower priority and longest call, see boxes 206 and 212. In addition Zellner discloses that each channel has a transmission rate. See column 3, lines 36-40. Examiner interpreted the channel rate of Zellner as being the claimed transferring a predetermined amount of data in a predetermined period of time. While Zellner specify the transferring a predetermined amount of data in a predetermined period of time (any connection must have transmission rate), it does not specify a predetermined amount of data "rate" in a predetermined period of time.

(Examiner interpreted this limitation, as being the selected busy open connection is the connection having a maximum data rate).

However, Alperovich discloses having a full-rate channels and sub-rate channels. See column 2, lines 20-36, and column 6, line 51-55, and column 7, lines 65 through column 8, lines 1-8. It would have been obvious to modify the system of Zellner by providing a full-rate connection as provided by Alperovich so that higher priority users of Zellner can be provided with the full-rate channel after being taken from a lower priority user. The advantage would be the ability to improve the system of Zellner by giving a full-rate channel connection to higher priority users while allocating sub-rate channels to lower priority user instead of the connection termination.

Regarding claim 20, Zellner discloses the availability of busy open connection (Box 212), and that the connection is associated with rate (transmission rate). See column 3, lines 36-40. Therefore the allocated Zellner/Alperovich channel as demonstrated above would be the channel having the full-rate, and that reads on the data rate is the highest data rate used by a user of users).

Regarding claims 29 and 30, Zellner discloses all the limitations of parent claim 23 as indicated above.

Zellner does not specify a predetermined amount of data rate in a predetermined period of time of the selected open connection transferred by a user of users of two or more open connections. (Examiner interpreted this limitation, as being the selected open connection is the connection having the maximum data rate)

However, Alperovich discloses dividing a full-rate channel used by a first mobile into a plurality of sub-rate channels upon receiving a request from a second mobile, and if a free full-rate channel is available, the second mobile is allocated the free full rate channel. See column 2, lines 20-36, and column 6, line 51-55, and column 7, lines 65 through column 8, lines 1-8. (Examiner interpreted the teaching of Alperovich of allocating a full-rate free channel as being equivalent to the claimed largest amount of data transferred in the selected one open channel).

Therefore it would have been obvious to modify the method system of Zellner in allocating the open channels based on full rate channel as taught by Alperovich so that higher rate connection can be allocated to the requesting user. The advantage would the use of more bandwidth by lower priority users as long as no requests are received from the higher priority users.

Regarding claims 21, 31, Zellner/Alperovich discloses the allocation of the connection to the higher priority user after the request for the connection being received. Therefore the full rate channel allocation of Zellner/Alperovich as demonstrated above in respective claim 19 and 29 would be in accordance with the timing immediately preceding the allocation of the connection determination of Zellner/Alperovich.

9. Claims 5, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Backstrom et al, US (5,903,851).

Regarding claim 5, with reference to figure 1, Backstrom discloses a method in a communication system, the method comprising:

receiving a request from device (10, 15) for opening a connection for user in communicating data, see figure 3, box 90;

Determining period of inactivity in established circuit connections, box 80, (claimed determining whether two or more connection in an idle open state, (Examiner interpreted the disconnection or the radio and PLMN connection of the circuit connection based on the detection of the inactivity as being the claimed determination of two or more idle open connection, because for illustrative purposes only one circuit connection is shown, however, multiple idle connection are obviously determined);

Backstrom discloses that the determination of idle connection is based on timeout period; See column 3, lines 58-67 and column 4, lines 1-6.
Backstrom further discloses releasing the connection (active open connection), to be allocated to the requesting used the requesting user, See figure 3, box 105, and column 27-31. (Corresponding to claimed selecting and releasing and allocating steps).
Backstrom, with reference to figure 1, shows the user (10, 15) in PLMN network, therefore the radio channel of a PLMN has a data rate transmission. (Examiner interpreted the claimed idle open connection in idle open state used to transfer a predetermined amount of data in a predetermined time, as being the radio connection of Backstrom that is selected based on inactivity.

It is obvious to Backstrom that resources released by the disconnected idle connection are allocated to the requested new connection, because that is needed for serving the new connection, see column 4, lines 40-48.

The difference between Backstrom and the limitation of claim 5, is that Backstrom does not specify the criteria of selecting the idle connection based on the longest timeout, (longest idle open connection time). However, assigning different time-outs for connections is well known in the art, it would have been obvious to a person of skill in the art to associate different timeouts thresholds or inactivity timers for releasing idle connections so that service priority can be provided. The motivation would be the need to implement priority services in the Backstrom system. The advantage of implementing the different time-outs (such as maximum time-out and minimum time-out) would provide higher priority users with longer inactivity time, and lower priority user with lower inactivity time, before their respective radio connections are disconnected.

Regarding claim 49, with reference to figure 1, Backstrom discloses a method in a communication system, the method comprising:

receiving a request from device (10, 15) for opening a connection for user in communicating data, see figure 3, box 90;

Determining period of inactivity in established circuit connections, box 80, (claimed determining whether two or more connection in an idle open state, (Examiner interpreted the disconnection or the radio and PLMN connection of the circuit connection based on the detection of the inactivity as being the claimed determination

of two or more idle open connection, because for illustrative purposes only one circuit connection is shown, however, multiple idle connection are obviously determined);

Backstrom discloses that the determination of idle connection is based on timeout period, See column 3, lines 58-67 and column 4, lines 1-6.

Backstrom further discloses releasing the connection (active open connection), to be allocated to the requesting used the requesting user, See figure 3, box 105, and column 27-31. (Corresponding to claimed selecting and releasing and allocating steps).

It is obvious to Backstrom that resources released by the disconnected idle connection are allocated to the requested new connection, because that is needed for serving the new connection, see column 4, lines 40-48.

The difference between Backstrom and the limitation of claim 49, is that Backstrom does not specify the criteria of selecting the idle connection based on the longest timeout, and the selection of the open connection is based on grade of service, (longest idle open connection time). However, assigning different time-outs for priority connections is well known in the art (Examiner interpreted the claimed grade of service as being priority), it would have been obvious to a person of skill in the art to associate different timeouts thresholds or inactivity timers for releasing idle connections so that service priority can be provided. The motivation would be the need to implement priority services in the Backstrom system. The advantage of implementing the different time-outs (such as maximum time-out and minimum time-out) would provide higher priority users with longer inactivity time, and lower priority user with lower inactivity time, before their respective radio connections are disconnected.

Regarding claim 50, with reference to figure 1, Backstrom discloses a method in a communication system, the method comprising:

receiving a request from device (10, 15) for opening a connection for user in communicating data, see figure 3, box 90;

Determining period of inactivity in established circuit connections, box 80, (claimed determining whether two or more connection in an idle open state, (Examiner interpreted the disconnection or the radio and PLMN connection of the circuit connection based on the detection of the inactivity as being the claimed determination of two or more idle open connection, because for illustrative purposes only one circuit connection is shown, however, multiple idle connection are obviously determined);

Backstrom discloses that the determination of idle connection is based on timeout period, See column 3, lines 58-67 and column 4, lines 1-6.

Backstrom further discloses releasing the connection (active open connection), to be allocated to the requesting used the requesting user, See figure 3, box 105, and column 27-31. (Corresponding to claimed selecting and releasing and allocating steps). It is obvious to Backstrom that resources released by the disconnected idle connection are allocated to the new connection, because that is needed for serving the established connection, see column 4, lines 40-48.

The difference between Backstrom and the limitation of claim 50, is that Backstrom does not specify the criteria of selecting the idle connection based on the longest timeout, and the selection of the open connection is based on grade of service, (longest idle open connection time). However, assigning different time-outs for priority

connections is well known in the art (Examiner interpreted the claimed grade of service as being priority), it would have been obvious to a person of skill in the art to associate different timeouts thresholds or inactivity timers for releasing idle connections so that service priority can be provided. The motivation would be the need to implement priority services in the Backstrom system. The advantage of implementing the different time-outs (such as maximum time-out and minimum time-out) would provide higher priority users with longer inactivity time, and lower priority user with lower inactivity time, before their respective radio connections are disconnected.

Response to Arguments

10. Applicants arguments filed December 27, 2004.have been fully considered but they are not persuasive:

Examiner has withdrawn the objection to claims 6-32, and the allowability of claims 5, 49 and 50. All pending claims are now rejected..

The 112 2nd rejections have been withdrawn in view of the amendment to claims 36-40.

Applicants argue that Zellner doe not disclose the limitations of claim 1 as amended. Examiner respectfully disagrees, claim 1 as amended is anticipated by Zellner as indicated in the above rejection.

Applicants also argue that: *Zellner does not teach "busy open" and "idle open" connections, Pages 12-13 of Applicants' specification describe the difference between "open" versus inactive" and the difference between "busy open" versus "idle open."*

Examiner respectfully disagrees, Applicant does not specify the difference between "busy open" versus "idle open" in the claims. The "busy open" connection(s) and "idle open" connection(s) are given the interpretation of open and idle connection (s) respectively.

Applicants argue that Zellner does not disclose the limitations of claim 36; Examiner respectfully disagrees. Applicants are referred to the rejection above.

Applicant alleged that Zellner does not teach, a pre-existing open connection being in one of a busy open state or an idle open state. Examiner interpreted this limitation as being taught by Zellner, because the presence of a connection in Zellner such as the one that is vacated upon receiving the request by mobile 1 reads on such limitation, since only one connection is selected, the Zellner connection selection correspond to the scenario where only the busy open connection is selected (connection being used by the lower priority subscriber).

Claims 41 and 44 are rejected for similar reasons as indicated above, and in addition the amendment to claim 44 necessitated new ground of rejection.

Applicant had requested specific published reference (s) to support the official notice taken by the Examiner. In response, Examiner, Examiner had provided the Yao reference with regard to claims 34, 35, 38 and 45, and Examiner had provided a prima facie case of obviousness with respect to the questioned claims 38 and 45.

Finally , Examiner believes that claims 34 and 35 are also anticipated by Zellner, and that no official notice is required as previously indicated in the final office

action. Claims 45-48 as amended are rejected under Zellner as indicated in the above rejections.

Examiner believes, given the broadest reasonable interpretation of the claim limitation, that the rejections above are proper.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Hussain et al, US (6,397,071); Rappaport et al, US (6,477,373); Garner, US (6,542,739); Douglis et al, US (6,598,082); Larson et al, US (6,643,262), Berg et al, US (6,674,713) and Wang et al, US (6,826,160).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571) 272-3097. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kizou Hassan can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHMED ELALLAM
Examiner
Art Unit 2662
11-Mar-05

JOHN PEZZLO
PRIMARY EXAMINER